

WHAT IS CLAIMED IS:

1. A vibration reduction zoom lens system comprising, in order from an object;
 - a first lens group having positive refractive power;
 - a second lens group having negative refractive power;
 - a third lens group having positive refractive power;
 - a fourth lens group having negative refractive power; and
 - a fifth lens group having positive refractive power;
- all distances between adjacent lens groups being moved upon zooming from a wide-angle end state to a telephoto end state;
- the third lens group comprising a plurality of lenses including a cemented lens constructed by a negative lens and a positive lens;
- only the cemented lens being used as a vibration reduction lens shifting substantially perpendicularly to the optical axis for correcting camera shake; and
- the following conditional expression being satisfied:
$$0.6 < |f_{3A}|/|f_3| < 2.6$$
where f_{3A} denotes the focal length of the

vibration reduction lens of the third lens group, and f_3 denotes the focal length of the third lens group.

5 2. The vibration reduction zoom lens system according to claim 1, wherein the following conditional expression is satisfied:

$$0.10 < |N_{3An} - N_{3AP}|$$

10 where N_{3An} denotes a refractive index of a medium of the negative lens of the vibration reduction lens at d-line ($\lambda=587.6\text{nm}$), and N_{3AP} denotes a refractive index of a medium of the positive lens of the vibration reduction lens at d-line ($\lambda=587.6\text{nm}$).

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3. The vibration reduction zoom lens system according to claim 2, wherein the following conditional expression is satisfied:

$$-0.50 < (R_2 + R_1) / (R_2 - R_1) < 0.50$$

20 where R_1 denotes a radius of curvature of the most object side lens surface of the vibration reduction lens, and R_2 denotes a radius of curvature of the most image side lens surface of the vibration reduction lens.

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4. The vibration reduction zoom lens system according to claim 3, wherein the following

conditional expression is satisfied:

$$3.0 < FT \cdot f1 / fT < 5.5$$

where fT denotes the focal length of the vibration reduction zoom lens system in the telephoto end state, $f1$ denotes the focal length of the first lens group, and FT denotes the f-number of the vibration reduction zoom lens system in the telephoto end state.

10 5. The vibration reduction zoom lens system according to claim 4, wherein the following conditional expression is satisfied:

$$0.40 < |f2| / fW < 0.80$$

15 where fW denotes the focal length of the vibration reduction zoom lens system in the wide-angle end state, and $f2$ denotes the focal length of the second lens group.

20 6. The vibration reduction zoom lens system according to claim 3, wherein the following conditional expression is satisfied:

$$0.40 < |f2| / fW < 0.80$$

25 where fW denotes the focal length of the vibration reduction zoom lens system in the wide-angle end state, and $f2$ denotes the focal length of the second lens group.

7. The vibration reduction zoom lens system according to claim 2, wherein the following conditional expression is satisfied:

$$3.0 < FT \cdot f1 / fT < 5.5$$

5 where fT denotes the focal length of the vibration reduction zoom lens system in the telephoto end state, $f1$ denotes the focal length of the first lens group, and FT denotes the f-number of the vibration reduction zoom lens system in the
10 telephoto end state.

8. The vibration reduction zoom lens system according to claim 7, wherein the following conditional expression is satisfied:

15 $0.40 < |f2| / fW < 0.80$

 where fW denotes the focal length of the vibration reduction zoom lens system in the wide-angle end state, and $f2$ denotes the focal length of the second lens group.

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9. The vibration reduction zoom lens system according to claim 2, wherein the following conditional expression is satisfied:

$$0.40 < |f2| / fW < 0.80$$

25 where fW denotes the focal length of the vibration reduction zoom lens system in the wide-angle end state, and $f2$ denotes the focal length of

the second lens group.

10. The vibration reduction zoom lens system according to claim 1, wherein the following conditional expression is satisfied:

$$-0.50 < (R2+R1)/(R2-R1) < 0.50$$

where R1 denotes a radius of curvature of the most object side lens surface of the vibration reduction lens, and R2 denotes a radius of curvature of the most image side lens surface of the vibration reduction lens.

11. The vibration reduction zoom lens system according to claim 10, wherein the following conditional expression is satisfied:

$$3.0 < FT \cdot f1/FT < 5.5$$

where fT denotes the focal length of the vibration reduction zoom lens system in the telephoto end state, f1 denotes the focal length of the first lens group, and FT denotes the f-number of the vibration reduction zoom lens system in the telephoto end state.

12. The vibration reduction zoom lens system according to claim 11, wherein the following conditional expression is satisfied:

$$0.40 < |f2|/fW < 0.80$$

where f_W denotes the focal length of the vibration reduction zoom lens system in the wide-angle end state, and f_2 denotes the focal length of the second lens group.

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13. The vibration reduction zoom lens system according to claim 10, wherein the following conditional expression is satisfied:

$$0.40 < |f_2|/f_W < 0.80$$

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where f_W denotes the focal length of the vibration reduction zoom lens system in the wide-angle end state, and f_2 denotes the focal length of the second lens group.

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14. The vibration reduction zoom lens system according to claim 1, wherein the following conditional expression is satisfied:

$$3.0 < F_T \cdot f_1/f_T < 5.5$$

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where f_T denotes the focal length of the vibration reduction zoom lens system in the telephoto end state, f_1 denotes the focal length of the first lens group, and F_T denotes the f-number of the vibration reduction zoom lens system in the telephoto end state.

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15. The vibration reduction zoom lens system according to claim 14, wherein the following

conditional expression is satisfied:

$$0.40 < |f2|/fW < 0.80$$

where fW denotes the focal length of the vibration reduction zoom lens system in the wide-angle end state, and f2 denotes the focal length of the second lens group.

16. The vibration reduction zoom lens system according to claim 1, wherein the following conditional expression is satisfied:

$$0.40 < |f2|/fW < 0.80$$

where fW denotes the focal length of the vibration reduction zoom lens system in the wide-angle end state, and f2 denotes the focal length of the second lens group.